AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) ~~Method~~ A method in a digital communication system for transmitting a modulated bit stream comprising modulated user data and modulated dummy data, wherein the modulated user data is represented by symbols from a symbol alphabet M, the modulated dummy data is represented by a symbol m_0, ~~the method is~~ **characterised by** ~~the steps of~~ comprising:

(a)- generating (601a) symbols $q_0, .., q_j$ randomly from a predefined symbol alphabet Q being a subset of the symbol alphabet M,

(b)- scrambling (602a) the modulated bit stream by performing bitwise modulo-2 addition between the modulated bit stream and the randomly generated symbols $q_0, .., q_j$ from Q, and

(c)- transmitting (603a) said scrambled modulated bit stream, wherein the predefined symbol alphabet Q is defined so that the transmit power level of the dummy data is substantially lower than the transmit power level of the user data.

2. (currently amended) ~~Method~~ The method in a digital communication system for receiving a modulated bit stream

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~~characterised in~~ ~~that~~ <u>wherein</u> the <u>modulated</u> bit stream is transmitted and scrambled in accordance with claim 1, the method ~~comprises~~ <u>comprising</u> the steps of:

(d)- generating (601b) symbols $q_0,..,q_j$ randomly from the symbol alphabet Q in synchronisation with the transmitter of the received <u>modulated</u> bit stream, and

(e)- scrambling (602b) the received <u>modulated</u> bit stream in order to recreate estimated message symbols from symbol alphabet M by performing bitwise modulo-2 addition between the received <u>modulated</u> bit stream and the randomly generated symbols $q_0,..,q_j$ from Q.

3. (currently amended) ~~Method~~ <u>The method</u> according to claim 1, wherein the <u>modulated</u> bit stream is modulated with Quadrature Amplitude Modulation (QAM).

4. (currently amended) ~~Method~~ <u>The method</u> according to claim 3, wherein the QAM is 16-QAM.

5. (currently amended) ~~Method~~ <u>The method</u> according to claim 1, wherein Q comprises four message points {q_0, q_1, q_2, q_3} representing signal vectors {s_0, s_1, s_2, s_3}, wherein the length of all of the signal vectors is equal, ~~i.e.,~~ $\|s_0\|=\|s_1\|=\|s_2\|=\|s_3\|$ and the angle increments from s_0 to s_1, s_1 to s_2, s_2 to s_3 and s_3 to s_0 are 90 degrees.

6. (currently amended) ~~Method~~ The method according to claim 5, wherein Q comprises the four innermost message points of the symbol alphabet M.

7. (currently amended) ~~Method~~ The method according to claim 1, wherein the randomly generated symbols from Q is generated by applying a pseudo-random binary sequence generator to a lookup table wherein the symbol alphabet Q and m_0 are stored.

8. (currently amended) ~~Method~~ The method according to claim 1, wherein the modulated dummy data m_0 is consistently represented by zeros or consistently represented by ones.

9. (currently amended) ~~Method~~ The method according to claim 1, wherein the method is applied on ~~VDSL~~ Very high rate Digital Subscriber Line (VDSL).

10. (currently amended) A ~~computer program product~~ computer-readable medium directly loadable into the internal memory of a computer within a mobile station or a base station transceiver in a communication system, comprising the software code portions for performing the steps of claim 1.

11. (currently amended) A ~~computer program product~~ computer-readable medium ~~stored on a computer usable medium,~~ comprising a readable program for causing a computer, within a mobile station or a base station transceiver in a communication system, to control an execution of the steps of claim 1.

12. (currently amended) ~~Transmitter~~ A transmitter (400) in a digital communication system, comprising:

means for transmitting a modulated bit stream comprising modulated user data and modulated dummy data, ~~wherein~~ the modulated user data [[is]] being represented by symbols from a symbol alphabet M, the modulated dummy data [[is]] being represented by a symbol m_o;~~, characterised by~~

means (401, 402) for generating symbols $q_0, .., q_j$ randomly from a predefined symbol alphabet Q being a subset of M;[[,]]

means for scrambling the modulated bit stream by performing bitwise modulo-2 addition between the modulated bit stream and the randomly generated symbols $q_0, .., q_j$ from Q;[[,]] and

means for transmitting said scrambled modulated bit stream,

wherein the predefined symbol alphabet Q is defined so that [[the]] a transmit power level of the dummy data is substantially lower than the transmit power level of the user data.

13. (currently amended) ~~Receiver~~ A receiver (404) in a digital telecommunication system comprising means for receiving a modulated bit stream ~~characterised in~~ ~~that~~ wherein the modulated bit stream is transmitted and scrambled by [[a]] the transmitter in accordance with claim [[10]] 12, the receiver further comprises means (405,406) for in synchronisation with the transmitter (400) of the received modulated bit stream generating symbols $q_0,..,q_j$ randomly from the symbol alphabet Q, and means for scrambling the received modulated bit stream by performing bitwise modulo-2 addition between the received modulated bit stream and the randomly generated symbols $q_0,..,q_j$ from Q in order to recreate estimated message symbols from symbol alphabet M.

14. (currently amended) ~~Transmitter~~ The transmitter (400) according to claim 12, wherein the modulated bit stream is modulated with Quadrature Amplitude Modulation (QAM).

15. (currently amended) ~~Transmitter~~ The transmitter (400) according to claim 14, wherein the QAM is 16-QAM.

16. (currently amended) ~~Transmitter~~ The transmitter (400) ~~or receiver (404)~~ according to claim 12, wherein Q comprises four message points {q_0, q_1, q_2, q_3} representing signal vectors {s_0, s_1, s_2, s_3}, wherein the length of all of the signal vectors

is equal, ~~i.e.,~~ $\|s_0\| = \|s_1\| = \|s_2\| = \|s_3\|$ and the angle increments from s_0 to s_1, s_1 to s_2, s_2 to s_3 and s_3 to s_0 are 90 degrees.

17. (currently amended) ~~Transmitter~~ The transmitter (400) according to claim 16, wherein Q comprises the four innermost message points of the symbol alphabet M.

18. (currently amended) ~~Transmitter~~ The transmitter (400) according to claim 12, wherein the randomly generated symbols from Q is generated by applying a pseudo-random binary sequence generator (401;405) to a lookup table (402;406) wherein the symbol alphabet Q and m_0 are stored.

19. (currently amended) ~~Transmitter~~ The transmitter (400) according to claim 12, wherein the modulated dummy data m_0 is consistently represented by zeros or consistently represented by ones.

20. (currently amended) ~~Transmitter~~ The transmitter (400) according to claim 12, wherein the transmitter (400) ~~or receiver (404)~~ is applied on ~~VDSL~~ Very high rate Digital Subscriber Line (VDSL).

21. (currently amended) ~~Transceiver~~ A transceiver in a digital communication system ~~characterised in~~ that [[it]] comprises the transmitter according to claim 12.

22. (currently amended) ~~Receiver~~ The receiver according to claim 13, wherein the modulated bit stream is modulated with Quadrature Amplitude Modulation (QAM).

23. (currently amended) ~~Receiver~~ The receiver according to claim 22, wherein the QAM is 16-QAM.

24. (currently amended) ~~Receiver~~ The receiver according to claim 13, wherein Q comprises four message points {q_0, q_1, q_2, q_3} representing signal vectors {s_0, s_1, s_2, s_3}, wherein the length of all of the signal vectors is equal, ~~i.e.,~~ $\|s_0\|=\|s_1\|=\|s_2\|=\|s_3\|$ and the angle increments from s_0 to s_1, s_1 to s_2, s_2 to s_3 and s_3 to s_0 are 90 degrees.

25. (currently amended) ~~Receiver~~ The receiver according to claim 24, wherein Q comprises the four innermost message points of the symbol alphabet M.

26. (currently amended) ~~Receiver~~ The receiver according to claim 13, wherein the randomly generated symbols from Q is generated by applying a pseudo-random binary sequence generator

(401;405) to a lookup table (402;406) wherein the symbol alphabet

Q and m_0 are stored.

27. (currently amended) ~~Receiver~~ The receiver according
to claim 13, wherein the modulated dummy data m_0 is consistently
represented by zeros or consistently represented by ones.

28. (currently amended) ~~Receiver~~ The receiver according
to claim 13, wherein the transmitter (400) or receiver (404) is
applied on ~~VDSL~~ Very high rate Digital Subscriber Line (VDSL).

29. (currently amended) ~~Transceiver~~ A transceiver in a
digital communication system, ~~characterized in that it comprises
a~~ comprising the receiver according to claim 13.